

ABSTRACT

DIRECT MAPPING OF DNA CHIPS TO DETECTOR ARRAYS

A device for detecting the pattern of polynucleic acid hybridization to a surface, the device includes (a) a positioning device for receiving a nucleic acid chip and keeping the chip in a sampling position, the nucleic acid chip being an object with a flat sample surface and an opposed surface that is joined to the sample surface by a thickness, with the sample surface having sequences of nucleic acids immobilized thereto, with each sequence being immobilized to a particular chip address. And, (b) an electronic light detector array, the detector array comprising detector pixels, the detector pixels being sensors located at particular detector pixel addresses, wherein the sampling position places the sample surface of the chip at a well-defined position relative to the electronic light detector array so that light leaving a chip address is substantially directed onto at least one detector pixel with an address that is correlated to the chip address.